



US005179071A

United States Patent [19]

Ekin et al.

[11] **Patent Number:** 5,179,071[45] **Date of Patent:** Jan. 12, 1993**[54] HIGH T_c SUPERCONDUCTOR CONTACT UNIT HAVING LOW INTERFACE RESISTIVITY**

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[21] **Appl. No.:** 641,405

[22] **Filed:** Jan. 15, 1991

Related U.S. Application Data

[60] Division of Ser. No. 274,881, Nov. 22, 1988, Pat. No. 5,015,620, Continuation-in-part of Ser. No. 117,259, Nov. 6, 1987, Pat. No. 4,963,523.

[51] **Int. Cl.⁵** B05D 5/12

[52] **U.S. Cl.** 505/1; 505/706;
427/62; 427/125

[58] **Field of Search** 427/62, 63; 357/5;
505/1, 706

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[57] ABSTRACT

A high- T_c superconductor contact unit having low interface resistivity is disclosed, as is a method for making the unit. An inert metal is deposited on the surface of the superconductor, which surface is preferably non-degraded, to form a unit with the surface of the superconductor, and where temperatures as high as 500° C. to 700° C. can be tolerated, the unit is oxygen annealed to establish a still lower surface resistivity between the surface of the high- T_c superconductor and the inert metal, including a low surface resistivity of about $10^{-10}\Omega\text{-cm}^2$ at high- T_c superconductor operating temperatures. The superconductor is a metal-oxide superconductor, and may be rare earth, thallium, or bismuth based.

13 Claims, 2 Drawing Sheets